

CLAIMS

1. A method and apparatus for a bandwidth adaptive image
compression/decompression scheme comprising:

- 5 using a protocol between sender and receiver wherein said protocol calculates bandwidth
latency of the connection;
choosing a compression scheme based on the results of said protocol;
transmitting the most interesting data first;
discarding repetitious data; and
10 calculating the perceptual degradation of said image for various compression schemes.

2. The method of claim 1 wherein said step of using a protocol is done periodically.

3. The method of claim 1 wherein said step of using a protocol is based on a
15 dynamic feedback loop.

4. The method of claim 1 wherein said compression scheme is lossy for a sub-band
coded progressive strategy.

20 5. The method of claim 1 wherein said compression scheme is lossless for a non
sub-band coded progressive strategy.

6. The method of claim 1 wherein said step of choosing a compression scheme
depends on the latency of the connection.

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7. The method of claim 1 wherein said step of choosing a compression scheme depends on the amount and type of said data to be transmitted.

8. The method of claim 1 wherein said step of choosing a compression scheme
5 depends on said scheme that uses CPU time conservatively.

9. The method of claim 8 wherein said step of choosing a compression scheme depends on the average decay of latency of said connection.

10. The method of claim 1 wherein said step of transmitting is decided by a wavelet
transform scheme.

11. The method of claim 1 wherein said step of discarding is done when said
connection is down for a short period of time.

12. The method of claim 1 wherein said step of calculating is supplemented with the
results of said protocol.

13. A computer program product comprising:

20 a computer usable medium having computer readable program code embodied therein
configured to create a bandwidth adaptive image compression/decompression scheme,
said computer product comprising:

computer readable code configured to cause a computer to use a protocol between sender
and receiver wherein said protocol calculates bandwidth latency of the connection;

computer readable code configured to cause a computer to choose a compression scheme based on the results of said protocol;

computer readable code configured to cause a computer to transmit the most interesting data first;

- 5 computer readable code configured to cause a computer to discard repetitious data; and
computer readable code configured to cause a computer to calculate the perceptual degradation of said image for various compression schemes.

14. The computer program product of claim 13 wherein said computer readable code
10 configured to cause a computer to use said protocol periodically.

15. The computer program product of claim 13 wherein said computer readable code
configured to cause a computer to use protocol based on a dynamic feedback loop.

16. The computer program product of claim 13 wherein computer readable code
15 configured to cause a computer to choose a lossy compression scheme for a sub-band coded progressive strategy.

17. The computer program product of claim 13 wherein computer readable code
20 configured to cause a computer to choose a lossless compression scheme for a non sub-band coded progressive strategy.

18. The computer program product of claim 13 wherein said computer readable code
25 configured to cause a computer to choose a compression scheme depending on the amount and type of data to be transmitted.

19. The computer program product of claim 13 wherein said computer readable code configured to cause a computer to choose a compression scheme depending on said scheme that uses the CPU time conservatively.

5 20. The computer program product of claim 19 wherein said computer readable code configured to cause a computer to choose a compression scheme depending on the average decay of latency of said connection.

10 21. The computer program product of claim 13 wherein said computer readable code configured to cause a computer to transmit the most interesting data is decided by a wavelet transform scheme.

15 22. The computer program product of claim 13 wherein said computer readable code configured to cause a computer to discard repetitious data is done when said connection is down for a short period of time.

20 23. The computer program product of claim 13 wherein said computer readable code configured to cause a computer to calculate said perceptual degradation of said image for various compression schemes is supplemented with the results of said protocol.